chickens I could raise under one hen. This favor was also granted, and I began my work in the spring with a certainty that I could make double my wages by taking care of the resources within view that had been wasted heretofore, or else considered of such small account that no one else cared to save them.

In those days the farmers did not have barns for their cattle. The sheep and cows depended upon the shelter of a haystack, and consequently many were diseased and died from exposure. The year before there were many sheep lost in this way, and no one thought it worth while to look after the wool. Of course, farming meant then, as it does now, early rising and working as long as there was a streak of daylight; but I had my Sundays to myself, and, while this is not considered a commendable spirit, I put the Sabbath day to this use. I was up early, and collected the skins from the bones of the dead sheep. The wool had in the meantime bleached to pure white from the snows and showers of winter, and the bones I piled in a heap to be sold at the proper time. I picked up the old iron that lay here and there, and got my start in poultry raising in the most unlooked for way.

During the harvest days, when riding on a load of oats, drowsing along, I was suddenly brought to a state of wakefulness by hearing a flutter in the air above me, and before I could realize it a chicken hawk had dropped its prey into my lap. The poor frightened chicken was not badly hurt. I put it into a coop by itself, fed it, and the next day it seemed to be all right. And thus it became my special pet and mascot in the poultry business. It was my first setting hen. Then I borrowed half a dozen hens, and when the summer was over I had raised and sold twenty-eight chickens. This of course added a great deal to my financial resources. The merchant, who always purchased the farmer's wool each year, gave me much more on the pound for my wool because it was so clean and white.

Then came my first experience in rousing enmity. The farmer's sons were jealous of my success, and made a complaint that I was making too much money. I was the victim of their jibes, and found it so uncomfortable that at last I went to the proprietor and inquired if I had in any way violated my contract, and told him that if he felt I had done so I should go at once. He reassured me, and told me to go right along as I had been doing and pay no attention to what his boys might say; that he approved of my energy and foresight and only wished his sons had my economical turn of mind.

After that I redoubled my interest, and during the season gathered berries and sold them, and during the autumn I spent my spare time gathering wild grapes, chestnuts, walnuts, and hickory nuts, which I sold. Every time I surveyed my bone pile, I smiled with satisfaction, for it had grown to big proportions, and I felt sure that my labors in this direction would be well paid; but one day, to my surprise, I saw a woman in the field filling her wagon with the bones I had collected. I had something to do to convince her that they belonged to me, and it ended by my having to unload her wagon for her—with a protest on her part, to be sure. That woman later became a millionaire and lived on Fifth-ave. She was a well known character in New Jersey.

WELL, true to my promise made to Father, I decided to go to school at the end of my second year of work. My folks were living in Delhi then, and after two years there in school I was graduated, saw that a higher education was desirable, and concluded to go to Western University at Middletown, Connecticut. In the meantime I had been saving all my earnings for this purpose, and left Delhi by stage for Kingston, where I arrived fifteen hours later. At Kingston I took a boat to New York; but denied myself the comfort of a stateroom, thinking I should put the money to better use.

The boat docked at Harrison-st. wharf the following morning at five o'clock. I had a very heavy trunk with me, which I left on the wharf until I inquired where the Hartford boat started from. I was told it left that evening from Peck Slip on the East River. I then went back, and decided to cart my trunk across town as best I could, a foot or two at a time. I could in that way save cartage, and save money that was of value to me, and I reasoned that I had all day for the job, and could do it. Then, too, I was sleepy, and thought I could keep awake by hustling.

I dragged and hitched the old trunk along, listening to the jibes of the idlers as I passed, and had proceeded as far as Chambers-st. when I was accosted by an Irishman pushing an empty pushcart in the middle of the street. "If you will put your trunk in my cart, you are welcome to use it," he said, and I was glad of this opportunity. He helped me load it into the wagon, and then went along on the sidewalk like a gentleman while I pushed my trunk.

By the time I had reached Peck Slip, I thought of a way to prove my gratitude to my Irish friend. I learned that he made his living by getting odd jobs delivering packages, and I offered to help him. He agreed to let me try to drum up some trade,—he standing by the wagon and I going from store to store asking for work, provided that I become his partner for that day and would let him split even on the earnings.

I guess I had entered some dozen stores without luck,

and was being convinced against my will that the Irishman was about right, when I got my first job. I was arguing with the manager of a store, when he said:

"How do I know that you will deliver the goods? I do not know you from Adam, and who knows you won't skedaddle the minute you are out of sight?"

Here I offered to leave my gold watch, also about twenty-six dollars, all I had with me, as security. While I was making him this proposition, an old man who had heard part of the conversation asked what it meant. I told him that I wanted work and would leave a guarantee of faithful delivery.

"Give him the goods," said the old man, who was the proprietor.

He refused to take my watch and money as security, and gave further proof of his faith in me when I had brought him the receipt for the delivered merchandise. He complimented me upon my speed, said no one to his knowledge had ever made such quick time from his store, and recommended me to other merchants he knew.

With these commissions I was kept busy until the boat left, and at the end of that time the Irishman and I were ahead of the game to the extent of four dollars and seventy-five cents each for our afternoon's work. He said it was the best day of his life, and begged me to stay in New York and go into the business with him; that he would make me a full partner; and that he knew we should prosper. I told him I was going to school and had other ambitions. I never forgot him and his kindness, and he frequently had proof of my interest in him.

I PURCHASED a ticket to Middletown, but not a berth; and, as I had been up the two nights previous, was pretty well worn out from lack of sleep when we reached there at three A. M. There were several students on their way to school who were not making my economical flight. They had their trunks sent to the college by express and rode up in carriages. I did not know where the college was, and left my trunk on the wharf, following as best I could the direction taken by these carriages, until I saw them enter the college grounds. Then I returned for my trunk.

I found no kind-hearted Irishman to give me a lift, as I had in New York, and the distance to the college was about a mile and a half. I hitched it along as best I could, and when I arrived there was pretty tired and so sleepy that as soon as I had deposited it under the stairway on the outside of the house I sat down on it and fell asleep at once.

A few hours later I was awakened by some boys who were making unkind remarks about my condition; but they were soon reprimanded by a kind-hearted man, who came up, put his arm about me, and told me to go up to his room and have a good rest. The world has not heard much about this man; for he did not succeed as the world measures success. His kindness to me, however, was one of the most fortunate acts of his life. I always remembered and was proud to learn that this man's son, Dr. Stiles, was the celebrated discoverer of the hookworm.

My first year in college was not very eventful. I tried my best to keep down expenses, and boarded myself. I had a cylinder stove in my room, and with the aid of a tin pail and a frying pan was able to eke out my subsistence. Then I began to sell books after school hours, and canvassed for orders for stencil plates for marking linen. I sold many to the students, and found these sales profitable enough to pay for my board the second year.

One day when canvassing these plates in a machine shop I found two men fighting over tools. My heart was with the man who was whipped, and it occurred to me that I could fix his tools in such a way that no one would dispute his ownership. If the stencil would print his name on linen, why couldn't I rig up a steel tool with his name in it, that by one blow of the hammer would print his name on his tools and thus settle all future disputes?

I went to a machine shop, and they gave me the vowels on the end of a piece of steel, and I began my experimenting. It was successful, and I added the other letters. By working one whole day Saturday, I completed my first invention, which was the most profitable thing I had ever done up to that time. I made the expenses of one term at college by this simple device, and had money to lend to other struggling boys.

AFTER graduation I thought of taking up teaching as a profession, and applied for the principalship of the school that I attended when I was working for that farmer for fifty dollars a year. At the same time I applied for a similar position in a school at North Tarrytown. Here I learned the value of the saying that a prophet is not appreciated in his own country, and also that pull is of little value when you are depending on a relative to exercise that pull. Those who knew me in my early boyhood thought I would not make a successful teacher, and the disappointment I received at the hands of my uncle, who was on the board, was one that I carried with me many a day. I thought this relative's recommendation would be a double advantage; but to be sure of my position I called upon all the trustees and obtained their approval and consent. The board was to meet that night. I remained with my uncle to get the first possible news; for I was confident of my selection for the place.

I came down very early, and found Uncle reading a paper. He gave me a peculiar look, and I knew better than to question him, but went straight to the president of the board to hear the result. I was discouraged, and started for New York City, where a friend of my father's told me of a vacancy in New Jersey, and that they would select a principal that very afternoon.

When I arrived at the schoolhouse there were about forty men ahead of me. The president of the board sat in a little classroom with the other members, and arranged to pick out the applicants in the following way:

"The first man on the second row, come forward."

After a few minutes in the classroom he would come out and take his seat again in the schoolroom, followed by the president, who would again make the selection, "Third man on the fifth row, come forward."

It was September and hot, and I stood by a window in the rear of the room, fanning myself with my hat and thinking what a useless effort I had made to try for a place here, when I heard the president say;

"Young man at the window, are you an applicant?"

I answered that I was.

"Please come forward."

I went with fear and trembling, and he began:

"Young man, what do you want?"

"I want work."

"What wages do you want?"

"I want work."

"Do you know the salary paid here last year?"

"Yes, Sir."

"Would you come for that salary of nine hundred dollars?"

"Yes."

"Would you come for eight hundred dollars?"

"Yes."

"Would you come for seven—six—five—four?"

I still nodded.

The president then turned to the other members of the board and said, "Did you ever hear anything like that before?"

I was engaged right on the spot, and three times that year my wages were raised.

This, of course, was only the beginning. All beginnings are alike: it is the ends that differ.

Before the end of that year I was getting seven hundred and fifty dollars.

I wanted the job.

Always keep employed. Never question the wages. A boy today has greater opportunity than any day in the past. Let him take care of the waste that surrounds him, and he will be successful enough to be a good American citizen and a happy one.

THE STORAGE BATTERY

THE term "storage battery" is a misnomer, as it implies the actual storage of electricity, which of course is not the true condition.

Most storage batteries on the market have electrodes of lead peroxid and sponge lead, immersed in dilute sulphuric acid. The action in producing a current is similar to that of an ordinary primary cell or battery; that is to say, a chemical action takes place. Both electrodes would be entirely converted to lead sulphate, if the process was continued sufficiently. The action is usually stopped at a certain point, however, and the battery not allowed entirely to discharge.

The difference between the storage battery and the primary cell or battery is that in the latter the parts have to be renewed when the battery has run down, while in the storage type a reverse current from some convenient source is all that is required for complete recuperation. This reverse or charging current brings the electrodes back into a state of sponge lead and lead peroxid, and the battery is again ready for operation.

Thus it is seen that the action that takes place is not the actual storage of electricity, but the mere conversion of lead sulphate to lead peroxid at the one pole or electrode and to sponge lead at the other, which substances give out a reverse or discharge current when desired. The lead peroxid is the positive electrode, or the one supplying current to the line.

The Edison storage battery that has recently appeared on the market uses nickel oxid and iron for electrodes, instead of the substances just mentioned.

There are many other substances that theoretically could be used; but so far only a few have proved of commercial value.

A current passed through water will cause oxygen to be given off at the positive electrode and hydrogen at the negative, which gases may be collected in suitable glass receptacles. If platinum electrodes be placed in these gases, a current can be made to flow in a direction opposite to that of the original. Thus a storage battery can be made with oxygen and hydrogen as the active elements. Up to the present, however, this method has been a mere laboratory experiment and has not been developed commercially. It is mentioned here simply to illustrate and emphasize the chemical nature of the action of the so-called electric storage battery.

—*Harold C. Ridgely*